

## ,NMCP COVID-19 Report #9: Tuesday, 28 April 2020

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**Disclaimer:** I am not a medical professional. This document is current as of the date noted above. While I make every effort to find and summarize available data, things are changing rapidly, with new research and potentially conflicting literature published daily. Best practice and evidence are constantly shifting during this international public health crisis.

Reports are biweekly, planned for Tuesdays and Fridays.

### Statistics

*Global* 3,083,467 confirmed cases and 213,824 deaths in 185 countries/regions

*United States* top 5 states (VA is ranked 16th)

	TOTAL	NY	NJ	MA	IL	CA
Confirmed Cases	1,002,498	291,996	111,188	56,462	45,883	45,200
Deaths	57,266	22,668	6,044	3,003	1,983	1,788
Tested	5,628,374	826,095	227,775	244,887	227,628	553,409

[JHU CSSE](#) as of 1400 EDT Tuesday, 28 April 2020

*Navy (Department of Defense)*

	TOTAL	MIL	CIV	DEP	CTR
Cases	1,536	1,327	124	45	40
Hospitalized	19	7	7	0	5
Recovered	561	331	119	58	53
Deaths	8	1	5	0	2
Total*	2,105	1,659	248	103	95

\*total = active + recovered + deaths [DoD](#) as of 0500 EDT and dated Monday, 27 April 2020

<i>Virginia</i>	Total	Chesapeake	Hampton	Newport News	Norfolk	Portsmouth	Suffolk	Virginia Beach
Cases	14,339	220	108	112	188	149	152	359
Hospitalized	2,165	50	28	33	38	32	32	76
Deaths	492	6	1	7	3	5	8	12

[VA DOH](#) as of 1000 EDT Tuesday, 28 April 2020

## ***Ripple Effects: Other Health and Wellness Issues Impacted by COVID-19***

The current pandemic has far reaching effects beyond an individual's health and mortality associated with infection by the SARS-CoV-2 virus and COVID-19 disease ([Int J Surg](#)). There are discussions by policy makers, thought leaders, and public health officials on other health impacts of the pandemic ([CHOP](#)). Topics include:

- mental health of frontline healthcare providers and individuals in quarantine
- amplification of healthcare disparities
- changes in access to and continuity of care for patients with chronic health conditions
- socioeconomic and psychosocial issues such as domestic violence, child maltreatment, and food insecurity

At the risk of editorializing, I thought I would occasionally highlight these issues in these reports, since healthcare providers may encounter them – professionally or personally. The first topic I selected is food insecurity.

### **Food (In)Security**

Food security refers to having "access, at all times, to enough food for an active, healthy life" ([USDA](#)). Food insecurity refers to uncertainty in having or acquiring enough food to meet the needs of household members; it can have varying levels of severity, be acute or chronic, and can affect different socioeconomic levels and settings ([USDA](#)).

#### *US Food Insecurity*

According to Feeding America – the largest domestic hunger-relief organization and network of food banks in the US – more than 37 million people struggle with hunger ([FA](#) [facts]). Geographic distribution can vary widely by state or region ([FA](#) [map]). Poverty, income volatility, unemployment, and lack of homeownership are economic drivers strongly correlated to food insecurity ([FA](#) [drivers]).

Households with children (especially if under the age of 6), those who are single and living alone, or racial minorities have higher rates of food insecurity than the national average ([USDA](#)). More than half of food-insecure households participated in the Supplemental Nutrition Assistance Program (SNAP, aka "food stamps"), the Special Supplemental Nutrition Program for Women, Infants and Children (WIC), and the National School Lunch Program ([FA](#) [facts]).

#### *Food Insecurity and the Military*

Food insecurity impacts active duty personnel as well as veterans ([Fed Pract](#)). According to reports, "servicemembers on active duty spent over \$21 million in SNAP benefits at commissaries from September 2014 through August 2015" ([GAO](#)) and over \$80 million at military commissaries in 2015 ([SNAP](#)). A 2016 cross-sectional survey of military households in

Texas found nearly 1 in 7 families reported food insecurity; the authors note that food insecurity could directly impact the health of military personnel and decrease readiness ([Public Health Nutr](#)). There is increasing awareness of food insecurity in military families with the current pandemic ([NMFA](#)).

#### *Pandemic Impact – Global*

A report from the Food Security Information Network suggests the pandemic will likely cause long-term disruptions in food production, availability, access, and safety globally ([FSIN](#)). New figures from the UN's World Food Programme estimate the COVID-19 pandemic will result more than a quarter of a billion people suffering from acute hunger by the end of the year, almost doubling current numbers ([WFP](#) [risk]). In a statement to the UN Security Council, the WFP's executive director had the following remarks:

"Forgive me for speaking bluntly, but I'd like to lay out for you very clearly what the world is facing at this very moment. At the same time while dealing with a COVID-19 pandemic, we are also on the brink of a hunger pandemic.

In my conversations with world leaders over the past many months, before the Coronavirus even became an issue, I was saying that 2020 would be facing the worst humanitarian crisis since World War II for a number of reasons...."

"In a worst-case scenario, we could be looking at famine in about three dozen countries, and in fact, in 10 of these countries we already have more than one million people per country who are on the verge of starvation..."

"1.6 billion children and young people are currently out of school due to lockdown closures. Nearly 370 million children are missing out on nutritious school meals - you can only imagine when children don't get the nutrition they need their immunity goes down."  
([WFP](#) [UN])

Already there are warnings of unprecedented food emergencies and potential hunger crises related to ongoing effects of the pandemic ([NYT](#) [Dahir]; [Nature](#)). The Food and Agricultural Organization of the United Nations notes that food disruptions could impact international and domestic stability ([FAO](#)).

#### *Pandemic Impact – Domestic*

The pandemic and associated mitigation measures have complicated an already complex situation for many communities; groups at risk include children, young adults, elderly, and families living in food deserts ([RAND](#)). School closures due to COVID-19 mitigation efforts will exacerbate food insecurity ([Lancet](#)). Food banks and pantries are struggling to meet demands, with many having miles of cars lined up to receive assistance ([Mother Jones](#)). In New York City, the current need exceeds what was seen after other crises like September 11th and Hurricane Sandy ([NYT](#) [Aridi]).

Although the full extent of coronavirus-related food insecurity is currently unknown, it is something to monitor. University of Pennsylvania researchers are conducting a survey on the effects of the new coronavirus outbreak (COVID-19) and food, including food insecurity assessment; to take part, see: <https://tinyurl.com/cv19food> (UPenn).

### *Food & Health*

Outside of the pandemic, food insecurity is a key issue in the Economic Stability domain of the Healthy People 2020 project, which looks at social determinants of health ([HP2020](#)). It is linked to obesity ([Int J Eat Disord](#)), changes in health behaviors such as breastfeeding ([Int Breastfeed J](#)), and increased rates of depression, anxiety, and sleep disorders ([J Gen Intern Med](#)).

Feeding America notes that food insecurity is associated with poorer health outcomes and greater healthcare costs ([FA](#) [costs]). A 2018 US-based longitudinal retrospective cohort study found 14% of individuals surveyed had food insecurity and significantly greater estimated mean healthcare costs over a year – "\$77.5 billion in additional health care expenditure annually" ([Health Serv Res](#)).

Another study found "substantial variation in state- and county-level health care expenditures associated with food insecurity... higher food insecurity prevalence is more strongly associated with higher spending than differences in health care prices or intensity of health care use" ([Prev Chronic Dis](#)).

### **Summaries from Other Sources**

[CEBM](#): Does BCG vaccination protect against acute respiratory infections and COVID-19? A rapid review of current evidence (24 April 2020)

"There is systematic review evidence with low to moderate risk of bias that BCG vaccination prevents respiratory infections (pneumonia and influenza) in children and the elderly. These non-specific effects are mediated by induction of innate immune memory (trained immunity)."

"There is a lack of evidence that BCG vaccine protects against COVID-19. Currently, two clinical trials are ongoing to determine if BCG vaccination protects healthcare workers during the COVID-19 pandemic."

*Note: BCG = Bacille Calmette–Guerin, a vaccine for tuberculosis; for more information, see [https://www.who.int/news-room/commentaries/detail/bacille-calmette-qu%C3%A9rin-\(bcg\)-vaccination-and-covid-19](https://www.who.int/news-room/commentaries/detail/bacille-calmette-qu%C3%A9rin-(bcg)-vaccination-and-covid-19)*

## Primary Literature

*Recent (within the last 7 days of report date)*

[Neurosurgery](#): The Risk of COVID-19 Infection During Neurosurgical Procedures: A Review of Severe Acute Respiratory Distress Syndrome Coronavirus 2 (SARS-CoV-2) Modes of Transmission and Proposed Neurosurgery-Specific Measures for Mitigation (26 April 2020)

"The goal of this paper is to briefly review how SARS-CoV-2 is transmitted and propose measures that could be implemented to minimize the risk of contaminating the operating room (OR) personnel during the most common neurosurgical procedures."

[JAMA](#): Effect of High vs Low Doses of Chloroquine Diphosphate as Adjunctive Therapy for Patients Hospitalized With Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) Infection: A Randomized Clinical Trial (24 April 2020)

"In this phase IIb randomized clinical trial of 81 patients with COVID-19, an unplanned interim analysis recommended by an independent data safety and monitoring board found that a higher dosage of chloroquine diphosphate for 10 days was associated with more toxic effects and lethality, particularly affecting QTc interval prolongation. The limited sample size did not allow the study to show any benefit overall regarding treatment efficacy."

"The preliminary findings from the CloroCovid-19 trial suggest that higher dosage of chloroquine should not be recommended for the treatment of severe COVID-19, especially among patients also receiving azithromycin and oseltamivir, because of safety concerns regarding QTc interval prolongation and increased lethality."

[Neonatology](#): Neonatal Resuscitation Where the Mother Has a Suspected or Confirmed Novel Coronavirus (SARS-CoV-2) Infection: Suggestion for a Pragmatic Action Plan (24 April 2020)

The article discusses a multidisciplinary approach and includes a checklist of actions before, during, and after delivery.

"This perspective aims to be a practical support tool for the planning of delivery and neonatal resuscitation of infants born by mothers with suspected or confirmed COVID-19 infection."

*ICYMI (older than the last week, not covered here previously)*

[Epilepsia](#): New-onset acute symptomatic seizure and risk factors in Corona Virus Disease 2019: A Retrospective Multicenter Study (18 April 2020)

"A total of 304 people were enrolled, of whom 108 had a severe condition. None in this cohort had a known history of epilepsy. Neither acute symptomatic seizures or status epilepticus were observed. Two people had seizure-like symptoms during hospitalization due to acute stress reaction and hypocalcemia, Eighty-four (27%) had brain insults or

metabolic imbalances during the disease course known to increase the risk of seizures. There was no evidence suggesting an additional risk of acute symptomatic seizures in people with COVID-19."

[Ann Intern Med](#): SARS-CoV-2 Isolation From Ocular Secretions of a Patient With COVID-19 in Italy With Prolonged Viral RNA Detection (17 April 2020)

A woman who had traveled from Wuhan, China to Italy in late January was admitted with coronavirus symptoms. Even after the virus had cleared her nose, SARS-CoV-2 was detected in her eyes with persistent conjunctivitis. Additional tests confirmed that the virus from her eyes was replicating and she was potentially contagious.

### *Literature Trackers*

LitCOVID, an extension of PubMed, is a curated literature hub from the NLM for tracking up-to-date scientific information about SARS-CoV-2 and COVID-19 disease.

See: <https://www.ncbi.nlm.nih.gov/research/coronavirus/>

COVID-19 Primer is another way to track the latest research papers.

See: <https://covid19primer.com/dashboard>

## **In Brief**

### *COVID-19 Timeline*

As of this writing, it has been 120 days since ProMED's first notice of a viral 'atypical pneumonia' outbreak in Wuhan, China ([ProMED](#)).

There's a lot we don't know about the disease ([NYMag](#)) and many unanswered questions ([NYT](#)).

### *Younger COVID-19 Patients*

An alert from NHS England (UK) highlights a 'small rise' of cases of critically ill children with unusual clinical presentation. The alert stated: "the cases have in common overlapping features of toxic shock syndrome and atypical Kawasaki disease with blood parameters consistent with severe COVID-19 in children. Abdominal pain and gastrointestinal symptoms have been a common feature as has cardiac inflammation". Many, but not all, of these children test positive for COVID-19 ([PICS](#)).

Young and middle-aged people, barely sick with COVID-19, are dying of strokes, with patients in their 30s and 40s left debilitated or dead; many did not know they were infected ([WashPo](#)). A previous news report noted physicians are seeing blood clots, including microclots in the lungs seen on autopsy, and other coagulopathies in patients with COVID-19 ([WashPo](#)).

### *Vaccines and Treatments*

A treatment and vaccine tracker is available and includes stage of development ([STAT](#)).

"There will be no US official participation" in a WHO global initiative to speed development, production, and distribution of vaccines or potential pharmaceutical treatments for COVID-19; China is the only other major country not officially involved in the project ([Reuters](#)).

How a virus might be delivered may impact how successful it will be; experts still predict an approved vaccine is a year or more away ([STAT](#)).

There are calls for governments and international organizations, which face challenges with cooperation, to start planning now how to ethically and equitably dispense any vaccine ([Guardian](#)).

### *Economic Impact*

Over 200 hospitals have furloughed workers as a result of the pandemic, most citing lost revenue and low patient volume ([Beckers](#)).

Per a recent Kaiser Family Foundation poll: "[J]ust over half of the February workforce (35% of all adults) say they either have lost their job (26%), had hours reduced (21%), taken a pay cut (13%) or been furloughed (7%) as a result of the coronavirus outbreak.... Four in ten (42%) of all adults say that either they or their spouse or partner experienced a job loss or a cut in salary or hours due to the coronavirus. Among this group, most say the loss of income is either a 'major problem' (41%) or 'minor problem' (32%) for their household." ([KFF](#))

### *Other Outbreaks Biological Threats*

Beyond food insecurity and hunger worries and coronavirus, African countries may face increase outbreaks of malaria as prevention services decline and lifesaving drugs sit unused in storage during the pandemic ([WashPo](#)).

There is also an undiagnosed disease outbreak and surge of unexplained deaths of prominent persons, including eminent academics and political figures, in Nigeria that reports make a point of saying are *not* due to COVID-19 ([H5N1](#)).

And then there's Ebola ([WHO](#)).

As if that isn't enough to worry about, some are raising concerns about the SARS-CoV-2 virus being used as bioweapon or exploiting the pandemic to develop other biological threats ([Economist](#)).

The journal *Intelligence & National Security* has published a special issue on global health security specific to COVID-19 and other biological threats ([Intell Nat Sec](#)).

## *Requiescat In Pace*

The creator of UpToDate, Burton 'Bud' Rose, has died of complications from COVID-19 disease ([STAT](#)).

## **Looking Ahead**

Planned for upcoming reports: mental health awareness and support; special topic on ethics during pandemics; COVID-19 podcasts; and any other submitted requests.

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